Dr. Gregory S. Spradlin

MATHEMATICS SEMINAR SERIES

The Mathematics Seminar Series

Presented by The Department of Mathematics

RADIATION THERAPY: SUFFICIENT CONDITIONS FOR INCREASED TREATMENTS TO LEAD TO INCREASED MALIGNANT CELL KILLING

Guest lecturer: Dr. Gregory S. Spradlin
Embry-Riddle Aeronautical University

Date: 3/18/21
Time: 12:30-1:30 PM

zoom https://erau.zoom.us/j/94141514199

ABSTRACT:
This research examines the effectiveness of radiation treatments, under popular mathematical models. Let f_0 denote the profile of a single dose, and N_f the total number of doses ("fractions"). We assume the combined total dosage is some constant BED ("biologically effective dose").

It is shown that under mild assumptions on f_0, likely to be met in practice, the probability of malignant cell survival is a decreasing function of N_f.

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